



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

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PHYSICAL SCIENCE

0652/05

Paper 5 Practical Test

October/November 2008

CONFIDENTIAL INSTRUCTIONS

Great care should be taken to ensure that any confidential information given does not reach the candidates either directly or indirectly.

The Supervisor's attention is drawn to the form on page 4 which must be completed and returned with the scripts.

If you have any queries regarding these instructions, please contact CIE

by e-mail: International@cie.org.uk

by phone: +44 1223 553554

by fax: +44 1223 553558

stating the nature of the query and the syllabus number quoted above.



This document consists of **4** printed pages.



Instructions for preparing apparatus

These instructions detail the apparatus, reagents and specimens required by each candidate for each experiment in this paper. A summary of the questions that will be presented to the candidates is included, where appropriate, to allow the teacher to test the apparatus appropriately. **No access is permitted to the question paper in advance of the examination session.**

It is assumed that the ordinary apparatus of a science laboratory will be available, including a supply of purified water (distilled or deionised).

If arrangements are made for different sessions for different groups of candidates, care must be taken to ensure that the different groups of candidates are effectively isolated so that **no information passes between them.**

For Question 1

Each candidate will require:

- (i) a spring of unstretched length about 40 mm, such that a mass of 100 g stretches it about 40 mm ;
- (ii) a mass hanger for carrying the masses ;
- (iii) access to a selection of masses to make 150, 200, 250, 300 g ;
- (iv) a stand and clamp with suitable fixing point for the spring ;
- (v) a metre rule ;
- (vi) a second clamp to hold the metre rule vertical ;
- (vii) a stopwatch capable of measuring to 0.01 s .

Candidates will be required to set up the apparatus as shown in Fig. 1.1.

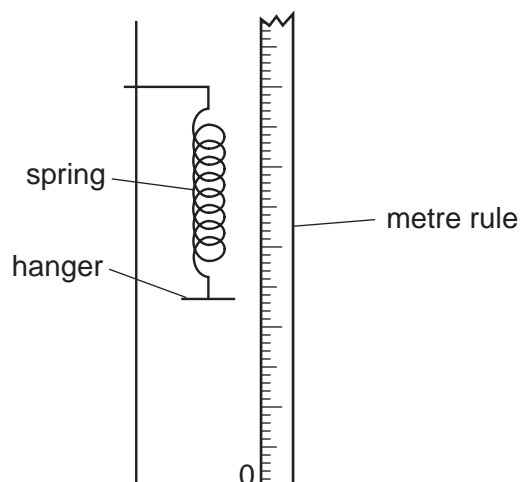


Fig. 1.1

For Question 2

Each candidate will require:

- (i) 8 test-tubes 125 x 15 mm and one 150 x 25 mm (large test-tube). If fewer are provided, candidates will be required to wash any used.
- (ii) a test-tube holder ;
- (iii) a Bunsen burner ;
- (iv) a strip of filter paper ;
- (v) access to aqueous barium chloride ;
- (vi) dilute hydrochloric acid ;
- (vii) a small piece of magnesium ribbon ;
- (viii) a spill ;
- (ix) about 0.5 g of solid sodium carbonate, labelled as such ;
- (x) access to a supply of aqueous sodium hydroxide and aqueous ammonia, concentration about 1 mol dm^{-3} ;
- (xi) access to a solution of potassium manganate(VII) concentration about 0.01 mol dm^{-3} , labelled solution **X** ;
- (xii) about 1 g of sodium metabisulphite, $\text{Na}_2\text{S}_2\text{O}_5$, labelled "solid **C**" ;
- (xiii) about 15 cm^3 of a solution containing about 16 g dm^{-3} of iron(III) chloride, labelled "solution **B**" ;
- (xiv) about 3 g of solid sodium hydrogensulphate, labelled "solid **A**" ;
- (xv) a 50 cm^3 measuring cylinder.

Spare materials and equipment should be available and can be provided without penalty. **Candidates should be made aware of this.**

Information required from the Supervisor:

The Supervisor is asked to carry out the experiments and to enter the results on a spare copy of the examination paper, clearly marked 'Supervisor's Results' and showing the Centre number. This should be returned with the scripts. Failure to do so may cause the candidates to be penalised.

This form must be completed and returned in the envelope with the scripts together with the seating plan and the Supervisor's Results mentioned on page 3.

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General

The Supervisor is invited to give details of any difficulties experienced by particular candidates giving their names and candidate numbers. These should include reference to:

- (a) difficulties due to faulty apparatus;
- (b) accidents to apparatus or materials;
- (c) physical handicaps, e.g. short sight, colour blindness;
- (d) any other information that is likely to assist the Examiner, especially if this cannot be discovered in the scripts;
- (e) any help given to a candidate.

The Supervisor is asked to supply the following information:

Plan of work benches, giving details by candidate numbers of the places occupied by the candidates for each session and a copy of the 'Supervisor's Results'.

NAME OF CENTRE

SIGNED
Supervisor

CENTRE NUMBER

DECLARATION (to be signed by the Principal)

The preparation of this practical examination has been carried out so as to maintain fully the security of the examination.

NAME
(in block capitals)

SIGNED (Principal)



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